DOCUMENT RESUME

ED 245 574 FL 014 435

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TITLE Language and Literacy Learning in Bilingual Instruction: A Case Study of Practices and Outcomes.
INSTITUTION Southwest Educational Development Lab., Austin, TX. Div. of Language and Literacy.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE 30 Sep 83
CONTRACT 400-80-0043
NOTE 36p.; For related documents, see FL 014 432-437. Two tables have small print.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; *American Indians; *Asian Americans; *Bilingual Education; Cantonese; Demography; Educational Change; English (Second Language); *Limited English Speaking; *Literacy Education; *Mexican Americans; Navajo; Program Descriptions; Second Language Learning; Spanish; Student Characteristics

ABSTRACT

A study undertaken to assess the educational services offered to children in three diverse bilingual communities gathered data through interviews with a variety of school and community people, classroom observations, and review of school documents. The results of the data gathering are summarized for each of the three communities: (1) an urban, primarily Asian community of Seattle, Washington with multiple language groups; (2) the larger of two El Paso, Texas, school districts, which has a majority of Hispanic Americans, and (3) two neighboring rural New Mexico school districts serving primarily Navajo students. The descriptive summaries for each community include information on the region and population, factors influencing change in educational practices for minority-language students, educational services presently available to limited-English speaking students, program exit criteria, length of stay in programs, and student achievement. It is concluded from these three descriptive studies that special language assistance programs continue to be needed, and that federal policy should be broad enough to allow communities considerable latitude in designing appropriate services. Benefit is seen in the use of the non-English home language in the classroom. Results of the analytic study of Cantonese bilingual education in the Seattle site are also summarized, including information on student characteristics, language proficiency, and literacy skills as measured by a number of distinct tests, and the literacy predictors examined. (MSE)

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LANGUAGE AND LITERACY LEARNING IN BILINGUAL INSTRUCTION: A CASE STUDY OF PRACTICES AND OUTCOMES

(Contract No. 400-80-0043)

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FL014 435

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September 30, 1983

This report is one of a series of documents produced for the LANGUAGE AND LITERACY LEARNING IN BILINGUAL INSTRUCTION STUDY by the Southwest Educational Development Laboratory:

Descriptive Studies - Asian, Spanish, Navajo: Final Report

Cantonese Analytic Study: Final Report

Language and Literacy Learning in Bilingual Instruction: Executive Summary

Language and Literacy Learning in Bilingual Instruction: A Case Study of Practices and Outcomes

Policy Report: Language and Literacy Learning in Bilingual Instruction

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This document was produced under Contract No. 400-80-0043 from the National Institute of Education, U.S. Department of Education to the Southwest Educational Development Laboratory. However, it does not necessarily reflect the official views of either the Institute or the Department. Information about the study can be obtained from the National Institute of Education and from the following persons from the Southwest Educational Development Laboratory who have participated in the study: Wesley A. Hoover, Betty J. Mace-Matluck, Domingo Domínguez

Each year schools in the United States enroll thousands of children who come from homes where English is not the primary language spoken by the children and their families. For these children, who are generally referred to as bilinguals, English is a second language. During the past two decades there has been a dramatic increase in the number of such students entering the schools, while at the same time the general school enrollment continues to decline. At present, minority-language students comprise approximately 6 percent (3.6 million) of the entire school-age population. They are not a homogeneous group. Culturally and linguistically, they represent one of the most diverse school populations in the world. However, large groups of these students are from Hispanic, Asian, and Native American backgrounds.

Schooling for minority-language students always has posed a particular challenge for American educators, and the rapid increase in numbers of such students has given rise to considerable debate about how U.S. school systems should respond to the cultural and lingusitic diversity of their students. It has long been recognized that Limited English Proficient (LEP) students are unable to participate fully in instruction delivered in English and that they need special assistance not only in (1) acquiring the necessary English skills to gain access to instruction but also in (2) making academic progress while those skills are being acquired. Special assistance, in the form of English-as-a-Second Language classes, has been provided over the years in some schools in an attempt to meet the first of these needs, but it was not until the passage of the Bilingual Education Act in 1968 that schools generally were encouraged to include instruction in the native language of the students to address the second of these (academic progress while acquiring the necessary English skills). Bilingual education for minority-language students proliferated in the early 1970s and has expanded rapidly during the last decade. This expansion followed a landmark decision (Lau vs. Nichols, 1974) in which the Supreme Court upheld the contention of a Chinese family that their child was denied access to equal educational opportunity because he was not sufficiently proficient in English to profit from instruction in English. Bilingual education, in which students are given instruction partially through their native language until they have attained sufficient proficiency in English to benefit from English medium instruction, was the principal remedy recommended by the Office for Civil Rights in response to the Supreme Court decision. School districts found to be out of compliance with the "Lau guidelines" could be denied access to federal education funds.

With mandates from Congress and the courts that instruction in public schools take into consideration students' language and abilities, along with an increasing awareness in recent years of the educational problems faced by children entering schools with lmited English proficiency, educators have responded with instructional programs that are intended to provide equal access to the educational process. The goals of such programs are to concurrently develop English language proficiency while at the same time ensure progress in academic skills achievement. The best means by which to accomplish these goals has been the subject of controversy and debate. The nature of the populations to be served, as well as local resources and educational philosophies, has given rise to a variety of organizational structures and instructional

approaches for the delivery of this instruction. Although many individual programs have had considerable success in improving minority-language students' academic performance, it has not been demonstrated that these programs generally are reducing inequality of educational opportunity on the large scale that was envisioned. Educators and policy makers alike are seeking information about educational practices that can best serve the needs of LEP students.

Recognizing the need for a national research program for bilingual education, Title VII, Part C, of the Education Amendments of 1978 called for a coordinated research agenda to be developed. Explicit authority and responsibility for implementing and carrying out such a program of research was given to the Commissioner of Education and the Director of the National Institute of Education. In response to this legislative mandate, the Education Division of the Department of Health, Education, and Welfare organized an interagency committee known as the Part C Coordinating Committee for Bilingual Education. This committee drew up a research agenda whose component studies were organized around three concerns: (1) assessment of national needs for bilingual education; (2) improvement in the effectiveness of services for students; and (3) improvement in Title VII program management and operations. Subsequently, requests for proposals to carry out these studies were issued by the National Institute of Education. Included in the mandated studies related to improving service effectiveness (#2 above) were a cluster of studies which were intended to provide information about bilingual instructional practices that could be used in designing better educational programs for students of limited English-speaking ability. One of these studies, Language and Literacy Learning in Bilingual Instruction, carried out by the Southwest Educational Development Laboratory, sought to provide information to help educators and policy planners understand how bilingual instructional practices operate and how such practices are related to student and program outcomes. Specifically, this study investigated and described services delivered to three different minority-language groups in three distinct regions of the country and examined the language and literacy achievement of a selected group of Cantonese-speaking students whose educational histories and instructional programs differed in some important ways. We were interested in knowing about the kinds of services that are provided for LEP students, how schools provide these services, factors which shape and guide these programs, and what instructional practices best foster growth and development of school-related language skills in the second language of bilingual students.

The assumptions underlying the study were that:

1. Variation exists in the type and extent of services provided for minority-language students, and that this variation is related to such factors as number of language groups served within a given district, number and distribution of students to be served, characteristics of the student population, local resources, local educational policies and philosophy, and the role of the home language in the wider society.

2. The amount of formal schooling in English and the home language, as well as relative proficiency in the two languages on entry into school, would affect subsequent English language and literacy development of bilingual students.

Thus, the study consisted of two strands of research. One was a descriptive study of services provided for limited-English proficient students and encompassed the first assumption listed above. Three sites were selected for intensive study. One serves multiple language groups (primarily Asian), another serves primarily Spanish-speaking students, and the third consists of two neighboring school districts that serve Navajo students. Data were collected through interviews with a variety of school and community people, classroom observations, and review of school documents.

The second strand of the research studied the language characteristics, educational histories, and language and literacy achievement of a selected group of 150 students in grades 2 and 4-6 in the Asian site. Data for this strand of the study included background information on students, descriptions of students' instructional programs, and a variety of measures of the students' current oral language, reading, and writing achievement.

EDUCATIONAL SERVICES FOR MINORITY-LANGUAGE STUDENTS
An Urban District Serving Multiple Language Groups

The Region and Population

The Seattle Public School District serves a large, urban, coastal city. Historically, the city has been composed of a multiple language population, with identifiable communities representing a wide range of ethnic groups who maintained some 30 to 40 different languages. Over the past several years, the school district has experienced a general decline in student enrollment. However, in the last decade the LEP student population has more than tripled. This is due primarily to two factors: (1) changes in the immigration laws which has encouraged new immigration from Mainland China as well as from other parts of Asia and the Pacific Islands; and (2) the region served by the district being a primary relocation center for Indochinese refugees.

At present more than 80 different languages and dialects are spoken by the student population. Approximately 15% of the student body, some 8,000 students, come from homes where a language other than English is spoken within the family. Of these, some 3,300 (7%) are LEP students. Over three-fourths of all bilingual students are Asian; Asians comprise 90% of the LEP population. Groups which reflect the majority of these students are Lao/Hmong/Mien, Chinese, Vietnamese, Filipino, Korean, and Cambodian. The most rapidly growing Asian groups in the district are immigrant Chinese from Hong Kong and Mainland China and Indochinese refugees.

Approximately one-half of the LEP students are from low income families. Virtually all of these students are immigrant or refugee

children. The majority live in the predominantly minority-impacted central and southeastern areas of the city. Approximately one-half of these students are enrolled in the secondary schools; several are young male refugees who are the sole members of their families in the U.S. Many of the Indochinese refugee students have had little or no formal schooling or have had their schooling interrupted for an extended period (i.e., two or more years).

Over the years, Chinese languages have been maintained in the home and fostered through a late afternoon and evening community school. Asian languages are widely used in the city's international ditrict and in social gatherings of Asian groups.

Factors Influencing Change in Educational Practices for Minority-Language Students

A series of legal and societal changes has taken place over the last decade at the national, state, and local levels which influenced the evolution of the district's bilingual programs. Important among these are the following:

(1) Changes in the immigration laws in the late 1960s gave rise to a sudden and continuing influx of LEP students primarily from Asia and the Pacific Islands. The practical need to integrate these students resulted in the implementation and spread of ESL classes in the early 1970s to serve these students.

(2) Following the passage of the Bilingual Education Act in 1968, and subsequent growth in programs nationwide which incorporated the use of the home language to assist LEP students to continue growth in concept development and academic learning while they were acquiring English, the school district also implemented in 1975 a dual-language program in Cantonese and English in one school. This program was, for all practical purposes, a language maintenance program in that all students, both English proficient as well as LEP students, for a part of their school day received instruction in spoken Cantonese and Chinese literacy. At the same time, in keeping with the growing interest both locally and nationally, particularly among minority-language populations, in maintaining and fostering the home language and culture, bilingual education spread to other schools in the district.

(3) In 1974, federal legislation (Lau vs. Nichols) was passed that required that special language assistance be provided for limited English proficient students in order to assure equality of educational opportunity for this student population. Subsequently, guidelines, known as the "Lau Remedies," were issued by the Office for Civil Rights (OCR) to assist school districts in complying with the federal legislation. In order to qualify for ESEA Title VII funding support, school districts were required to develop and submit to OCR a Lau Compliance Plan. Following negotiations, the District's plan was approved by OCR in the summer of 1976. Under this plan, LEP

students are to be provided services aimed particularly at developing English language proficiency and are, in addition, to receive course content assistance in the home language in required subject areas. Students are to be mainstreamed when it is determined that they are functioning within or above the "normal range" for the student's age and grade placement on standardized achievement tests (23rd through 70th percentile). A provision was made for participation in the special language programs on a voluntary basis of a limited number of English proficient students at the discretion of the school district.

(4) Other changes were occurring in the district during that period which had significant impact on the nature and direction of the district's biingual programs. The district was experiencing a general decline in total enrollment, yet in late 1975, the nature of the students requiring language assistance, both in numbers and in terms of the educational background of many new arrivals, began to change dramatically. The fall of Saigon in 1975 resulted in a large influx of Vietnamese students. By the 1976 school year, the interaction of the increased numbers of students eligible for language assistance, and the effects of the district's Lau Compliance Plan, resulted in a greatly expanded bilingual program staff. From 1976 to 1978, the increased flow of students continued. In 1979, this flow was further increased due to the exodus of Laotian and Cambodian peoples. The net result has been a rapidly increasing population eligible for, and requiring provision of, bilingual program services under the terms of the district's Lau Compliance Plan. It was during this period also (1978) that the district implemented its Desegregation Plan which involved transporting students in a system of paired and triaded schools. The net result of these events was a reorganization of the district's bilingual programs to (a) assist in achieving racial balance in the schools, (b) allow clustering of students by language groups and by unique educational needs, (c) provide differentiated services in keeping with the needs of different types of students, and (d) to focus services on those children of greatest need, within the limitations of available funds.

(5) On the heels of the above changes came the passage of the Transitional Bilingual Instruction Act (1979) at the state level and the adoption in 1979 of district policy which specified clearly a transitional bilingual program with the goals of developing English language proficiency in identified students and enhancing the positive self image of LEP students.

Thus, from the early 1970s to the present the character of the district's bilingual program has shifted from its initial emphasis on English language development toward home language maintenance and back again to emphasis on English language proficiency as its primary goal. Legislative mandates, state and federal guidelines, and practical con-

siderations related to fiscal constraints have clearly been the most powerful factors guiding the development of the district's bilingual program. Pedagogical considerations have played a lesser role and have been most evident at the classroom level.

An overview of the forces which have affected and shaped the district's special language assistance programs, along with the district's concomitant schooling practices for minority-language students, is presented in Figure 1. The district's current programs are described briefly below.

Education Services Presently Available to LEP Students

In the 1978-1979 school year, the district implemented its present comprehensive service program for LEP students. In addition to its basic instructional program in schools, a variety of other services are provided. These include (1) registration, placement, and transportation of students; (2) home contact; (3) bilingual/ESL resource center; (4) work-training; (5) language assessment; (6) diagnosis/prescription; (7) inservice training for school personnel; (8) data gathering; (9) tutoring; (10) summer school for LEP students; and (11) traffic education for bilingual students. These services are administered through the Bilingual Programs Office which reports directly to the district's Director of Program Development.

A centralized, district-level service is provided for the registration, identification, and assignment of LEP students. Students are identified at the time of registration through information about the student's home language usage obtained from the Student Registration Record and formal language assessment in English conducted at the time of registration (a locally-developed oral language proficiency test is used for this latter purpose). On the basis of this information, students are assigned to one of three program models: newcomer centers, regular bilingual programs, and an orientation center.

Newcomer centers are designed primarily for LEP students who have missed at least two years of school or who have had little or no formal education. Each of the centers serves primarily students who speak a designated language(s). In these centers, students are assigned to a special program for one-half of each school day and the other half to a regular, mainstream program within the same school building. Students are grouped for instruction on the basis of age/grade level. In the special half-day classes, the students at the elementary level are rotated through three periods of instruction as follows:

ESL - 45 minutes; taught by a certificated teacher with ESL qualifications.

Basic Skills - 45 minutes; taught by a certificated techer with specialization in the teaching of reading and/or language arts; all basic skills classes are taught in English only.

Bilingual Instruction - 45 minutes; taught by a bilingual speaker who may or may not hold state certification. Instruction is primarily in math and social studies.

	PAST PROGRAMS									CURRENT PROGRAMS		
Timeline		1965	1967	1968	1970	1971	1973	1974	1975	1976	1978	1979	1980
Change Factors	Limited immigration Limited influx of LEP student	Changes in immigration laws	Increasing enrollment of LEP students	Passage of Bilingual Education Act	Significant increase in enrollment of LEP students			Lau vs. Nichols Supreme Court Decision	Fall of Saigon; Large influx of war refugees from Southeast Asia; Lau Compliance Plan accepted	Exodus of Laotian and Cambodian peoples from Southeast Asia	Desegregation Plan implemented; Busing of students Services limited to fluency categories A&B students (LEP) Continued growth in number of LEP students to be served Reorganization of special language assistance program	Passage of State Transitional Bilingual Education Law	Continued influx of LEP students
Program Organization	Neighborhood schools - regular mainstream classes				Pull out classes for LEP students in one high school	Project TESOL implemented - Pull out classes in impacted schools	Cantonese/ English Dual Language Program in one school				Regular Bilingual Program and ESL pull out classes; Cantonese/English Dual Language Program discontinued Comprehensive Service Program (Basic program and support services)	Newcomer Centers (serving newly-arrived student with limited or interrupted prior schooling); half day in Center; half day in regular mainstream classroom	Orientation Center added (all incoming LEP students are assigned to Center until natural semester or quarter break then reassigned to an appropriate Newcomer Center or Regular Bilingual Program)
Program Offerings	Standard curriculum; English medium instruction (ESL offerings on limited basis in International District Schools)				Regularly-scheduled ESL classes in one high school only	Regularly-scheduled ESL classes in impacted schools	ESL; oral language development and literacy instruction in Cantonese (some use of native language in instruction in other impacted schools where staff were available)		Expanded ESL offerings; increased use of native language in instruction in impacted schools where staff were available. Expanded offerings and increased number of students served in Cantonese/English Dual Language program			Regular Bilingual: ESL instruction and bilingual support in content areas; ESL Only: secondary level and for students from language group for which no bilingual support classes are available Newcomer Centers: ESL instruction and bilingual support in content areas	Orientation Center: intensive lessons in survival English, basic skills in English, subject matter instruction (some bilingual support); and cultural adjustment activities
Entry Criteria	Limited English Proficiency; judgment of school staff					Limited English Proficiency; judgment of staff and informal and formal language testing	Cantonese/ English Dual Language Program: voluntary participation; language proficiency not major consideration				Home Language Identification Survey and formal language testing in English		Home Language Identification Survey; formal language testing in English (and in reading and math skills in the home language for students on entry into the Orientation Center)
Exit Criteria	Sufficient English skills; judgment of school staff						Cantonese/ English Dual Language Program: determined by staffing capabilities and student choice				Oral language proficiency test score; standardized test score in English reading comprehension; recommendation of bilingual, ESL, and classroom teacher(s)		Reassigned at the natural semester or quarter break

Figure 1 Historical development of special language assistance program for LEP Students - Seattle Public Schools.

At the secondary level, students are scheduled for two-to-three 50 minute classes in which they receive ESL instruction and bilingual support in subject matter content. In the regular mainstream classes at all levels, the Newcomer Center students participate in the regular curriculum offered to other students in the classes. Students who meet the exit criteria for Newcomer centers are reassigned to one of the Regular Bilingual Programs (exit criteria are discussed below).

Regular bilingual programs serve LEP students who have had normal schooling and students who are transferred from the Newcomer centers. These programs offer two services: ESL classes and bilingual instruction. At the elementary level this consists of two periods of pull-out classes of 30 to 45 minutes of instruction per day. At the secondary level, students are scheduled in this program for two 50-minute periods per day. The rest of the school day is spent in regular, mainstream classes.

The Orientation Center serves students (grades 1-12) who enroll in the district after October 1. They remain in the center until the natural quarter or semester break, at which time they are reassigned to an appropriate Newcomer Center or Regular Bilingual program. The instructional program consists of intensive ESL and basic skills instruction in English. In addition bilingual support in subject matter content is provided to the extent that bilingual staff is available. The purpose of the center is to orient the students to the U.S. school system, to equip them with some basic English skills, and to assist them in making necessary cultural adjustments. Since new LEP students have been arriving in the district at the rate of upwards of 50 per month, the center also serves to reduce the disruption of a continual influx of new students to all-ready fully assigned classes in the Newcomer and Regular Bilingual programs.

The goals of the special language programs are threefold: (1) to assist the students to become proficient in the English language; (2) to help students to make satisfactory cultural adjustments to their new environment; and (3) to provide support in concept development and academic learning through the home language while gaining English language skills.

The instructional model adopted for the ESL snd Basic Skills classes is one of moving children sequentially through the acquisition of listening/speaking skills, reading, and writing in English. The instructional focus takes into consideration the student's age, prior exposure to English, and former schooling. Bilingual support classes follow the regular district curriculum in subject matter content. The home language is used to clarify instructions and to explain new concepts and unfamiliar content.

Exit criteria for each of the program models has been specified and operationalized. Students in the Newcomer center program are screened in the spring of each year. Criteria for transfer to regular bilingual programs are based on objective test data and teacher recommendation as follows:

- oral language proficiency test score in English of 28+ (10 points);

- Reading Comprehension section of a standardized achievement test at 23+ percentile (20 points);

- Level of academic performance - at grade level in Reading, Language Arts, Math, Other (20 points);

- Classroom Teacher Recommendation, positive (20 points);

- Newcomer Center staff recommendation, positive (30 points).

To be eligible for transfer, students must accumulate 80-100 points from the above categories. Newcomer Center students are of LEP status when they are enrolled and usually are of that status when they are reassigned, in keeping with the above criteria for exit.

Students who meet the exit criteria for Regular Bilingual programs are reassigned to English-medium, mainstream classes in their assigned schools. In general the student must score above the 35th percentile in reading comprehension (as measured by a standardized achievement test), receive a score of 36+ on the oral language proficiency test, and be recommended for exit by concensus of the bilingual staff and the classroom teacher(s).

Length of Stay in Programs; Student Achievement

Length of stay in the bilingual programs is determined on the basis of the above specified exit criteria. Younger students meet criteria relatively sooner than older students. Approximately two-thirds of the students exit the program within three years. Some 40% of the students remain in the program for four or more years.

Student achievement data in the Spring of 1980 showed that the Asian groups studied were over-represented in the lower three stanines (23rd percentile) as compared to the national norm groups in the areas of total reading, total language, and total math. In reading, certain of the groups were more widely represented in the lower stanines than were others. However, from 50% to 89% of these students scored at or below the 23rd percentile.

A similar pattern holds for scores on total language. The Chinese students showed a somewhat lesser representation in the lower three stanines in language than in reading. A considerably different pattern emerged for the language groups studied in total math. Laotian and Cambodian students are over-represented in the lower three stanines; the Chinese and Vietnamese students appear to be achieving at or above the national norms in math. Predictions based on a sample of Cantonese-speaking students at fourth and fifth grades currently enrolled in the bilingual programs place this sample of students at the 46th percentile in reading at the end of sixth grade and at the 80th percentile in math.

An Urban District Serving Primarily Spanish-Speaking Students

The Region and Population

The El Paso Independent School District (EPISD) is the largest of two districts serving the city of El Paso, Texas. El Paso is located in the westernmost corner of the state and is bordered by New Mexico on the west and by the Republic of Mexico on the south. The Rio Grande river separates El Paso from its sister city of Ciudad Juarez, Chihuahua. These two cities have a total population in excess of a million. Approximately 850,000 people live in Juarez and about 475,000 reside in El Paso. El Paso's proximity to Ciudad Juarez has contributed to the unique problems faced by the school district, and is the source of a constant flow of Mexican people into El Paso. The population of El Paso is at present, and has been over the years, approximately 60% Hispanic.

The school district serves a student population of 61,359 of which 69% are of Hispanic origin. The percentage of economically deprived, mostly Hispanic, is approximately 49%. The district currently serves 10,738 educationally deprived students in 32 Title I campuses. These same campuses are part of 52 campuses which provide bilingual instruction to 33,471 students in kindergarten through sixth grade. Of those students, 11,164 are limited-English-proficient (LEP). An additional 1,031 LEP students are served in grades 7-12 by English-as-a-Second Language instruction.

Factors Influencing Development of Programs for Minority-Language Students

The historical development of El Paso's special language assistance programs is shown in Figure 2. As early as 1947 the district recognized the need for and initiated special Engish language instruction for minority-language students. This instruction was provided either within the students' regularly-assigned classs or in pull-out classes within the students' neighborhood school. As federal monies became available to schools in the 1960s, the district began offering a variety of approaches to address the need of LEP students. These included a short-lived, experimental program in bilingual education (funded with Education Professions Development Act monies), English-as-a-Second-Language (ESL) classes, and remedial reading instruction for those students who experienced difficulties with reading English after they had learned to speak it and to write it. In 1970, the District began offering bilingual instruction (funded under ESEA Title VII) in three campuses in which the student population was 100% Mexican American.

In the years that followed a number of decisions at the local, state, and federal levels influenced and shaped the district's present educational programs for minority-language students. The plan for its current efforts in bilingual education was developed in the summer of 1972. The planning session was prompted by the conclusion of two major studies. One of these studies was conducted by the district as part of its participation in a federally-sponsored effort known as Project TREND (Targeting Resources on the Educational Needs of the Disadvantaged). The other was a two-year investigation of the district by the Office for

	PAST PROGRAMS				CURRENT PROGRAMS				
	1947	1960-1969	1970	1972	1973	1974	1975	1981	1982
EVENT	Recognition of special English needs of minority-language students	Passage of Bilingual Education Act	Alvarado vs. El Paso (1970-1975)	Passage of ESAA Conclusion of two major studies in district (federally-sponsored project TREND; two-year investigation of district by Office for Civil Rights) Development of district's Comprehensive Education Plan (CEP)	Passage of Texas Senate Bill 121 Implementation of district's Comprehensive Education Plan	Lau vs. Nichols Supreme Court Decision	Passage of Texas House Bill 1126 Resolution of Alvarado vs. El Paso	Passage of Texas Senate Bill 477	
PROGRAM STRUCTURE	Instruction provided in regularly-assigned classes or in pull-out classes within the assigned school	Short-lived experimental bilingual program; designated classes within assigned buildings Special English instruction in regularly assigned and pull-out classes	ESEA Title VII bilingual program, 3 campuses		Bilingual education in Priority I schools (96% minority students); designated classes in students' regularly-assigned neighborhood schools ESL program (pull-out classes) for language groups other than Spanish	Bilingual Education in Priority II schools (62% minority students)	Bilingual Education in Priority III schools (32% minority students)		
PROGRAM OFFERINGS	English-as-a-Second Language instruction	Native language instruction; ESL and remedial reading in English			Native language instruction; ESL; Spanish for Spanish Speakers; Spanish-as-a-Second Language; Content areas in English with bilingual support; Transfer Reading				
EXIT CRITERIA	Sufficient English skills as judged by school staff	Satisfactory progress as judged by school staff			Students do not exit from the program; program offerings change as students gain in reading and English skills				

FIGURE 2. Historical development of special language assistance programs - El Paso Independent School District.

Civil Rights. Findings from these two studies provided the basis for the development of the district's Comprehensive Education Plan (CEP), which was implemented in the 1973-1974 school year. Included in this plan was the provision that a district-wide K-12 bilingual program be systematically developed and implemented over a 15-year period.

A series of legislative, executive, and judicial decisions have also had an impact on the district's special language assistance programs:

1. The Emergency School Aid Act (1972). Its passage enabled the district to secure funds to cover the development costs of its program.

2. Texas Senate Bill 121 (1973). Its passage enabled the district to receive some state funds for the maintenance of its program.

3. Lau vs. Nichols (1974). The Supreme Court's decision in this case helped to justify the district's somewhat controversial actions in the Comprehensive Educational Plan of 1972.

4. Texas House Bill 1126 (1975). Its passage ensured continuation of state support for bilingual education plus initiated state funds for compensatory education.

5. Alvarado vs. El Paso ISD (1970-1975). The Court ordered the district to (a) initiate student movement to bring about a balance in the ethnic composition of its schools, and (b) to develop a plan for meeting personnel goals first articulated in the CEP; the Court dismissed charges of discrimination through its instructional programs, citing the achievements since the implementation of the CEP as one of the reasons.

6. Texas Senate Bill 477 (1981). Its passage enables all school districts to implement the dictates of the Federal Court in U.S.vs. Texas.

Educational Services Presently Available to Minority-Language Students

Children in the district attend their neighborhood school and receive all instruction there. Unlike other districts who have suffered from competing innovations, the El Paso School District has succeeded in coordinating seemingly competing programs and funding sources by focusing its development efforts on the needs of students and staff at the campus level. Each school is staffed according to the population to be served. The basic program is taught by the regular classroom teacher. Schools may use a number of approaches to implement the program; some use a self-contained approach; others combine a self-contained and cooperative teaching approach; still others use a departmentalized approach, especially in grades 4-6. Regardless of the approach, it is the responsibility of the regular classroom teacher to teach the basic components of the program--reading in Spanish, transfer reading, and

English- or Spanish-as-a-Second Language. In eligible schools, Title I funds are then used to supplement the reading in Spanish in grades 2-3, transfer of reading in grades 2-6, and English-as-a-Second Language in grades 1-3. State Compensatory Education funds are used to employ English-as-a-Second Language teachers in grades 4-12. State bilingual education funds and local district funds are used to purchase instructional materials and supplementary texts as well as to underwrite an on-going staff development program.

Languge assessment of new students is carried out district-wide within two weeks of enrollment by trained staff at each of the participating schools. Locally-developed tests are used for this purpose. Language proficiency assessment in both English and Spanish is conducted in grades K-6; this assessment is conducted only in English in grades 7-12. This is becaue the district is prepared to respond to student needs in both languages in the elementary grades but in only one in the upper grades. Each measure has its corresponding criteria for determining language proficiency. Based on the results of the testing, students are provided instruction in the program components appropriate for their category:

1. English Dominant Students receive the typical all-English instructional program; however, in grades K-3, they receive 30 minutes daily of Spanish-as-a-Second Language (SSL) instruction; in grades 4-6, they receive 45 minutes daily of SSL instruction or Spanish for Spanish Speakers (which includes reading in Spanish), whichever is appropriate, while in grades 7-12, Spanish becomes an elective.

2. Bilingual Students receive the same curricular offerings provided for English dominant students, except that they participate in Spanish for Spanish Speakers (SSS); SSS begins as an oral Spanish language program for speakers of the language and becomes a reading-in-Spanish program once the students have learned to read in English.

3. Spanish Dominant Students participate in language arts in Spanish comparable to that offered to English dominant and bilingual students; they receive 30 minutes daily of English-as-a-Second Language (ESL) instruction in grades K-3. They receive instruction in mathematics, science, and social studies in Engish, using an ESL approach or Spanish language preview/reading techniques. In grades 4-6, these students receive 90 minutes daily of instruction in ESL plus 45 minutes of SSS instruction (usually reading in Spanish and concept development). The rest of the curriculum is presented in English, using an ESL approch. In grades 7-12, these students receive 90-100 minutes daily of instruction in ESL.

4. Bilingual Transfer Students were once classified as Spanish dominant and have met the criteria for transferring their reading skills from Spanish to English. They begin to read in a reading series designed to bridge the gap between the Spanish basals and the regular English basal readers. They

continue to read in Spanish in their SSS class. The time devoted to each subject matter area depends on the grade level of the student, i.e., 60 minutes of language arts in English in grades 1-3 plus 30 minutes of SSS, or 90 minutes of language arts in English in grades 4-6 plus 45 minutes of SSS.

Besides the basic services described above, the students may receive additional instructional services from staff available at many of the district's campuses which qualify for state or federal categorical funds. These services are designed to supplement the services provided by regular teachers. Because the last two student categories above are educationally deprived by definition, they do not perform at grade level in English; these students are systematically scheduled to participate in Title I classes.

Exit Criteria

The cornerstone of the district's bilingual program is the original decision that students were to become literate in their dominant language prior to reading the second, even though they were to be taught the second language at the same time they were being taught literacy skills in the dominant one. A part of that decision was another, which called for students to continue to develop their literacy skills in both languages through grade 6. Consequently, there exists no collective set of variables which can be referred to as "exit criteria" in the district. Students do not exit. In El Paso, students transfer. Even after they transfer reading skills from one language to the other, they continue to receive instruction in reading both languages.

Length of Stay in Programs; Student Achievement

The length of stay of students in bilingual education is a minimum of seven years by design, that is, students receive instruction in both languages throughout their elementary school career. The usual time a student requires to meet the transfer criteria and be helped to transfer her/his reading skills from Spanish to English is three years. The results of language proficiency testing show that in most of the Priority I schools (which have more than 60% Spanish dominant students in grade one) better than 85% of the students have become bilingual and have begun to transfer their reading skills to English by the start of grade three. This does not mean that the district does not continue to have Spanish dominant students in grades four and above. Some students transfer in grade four and still others in subsequent grades. This latter group, however, mostly consists of those who are new students to our schools from other countries, primarily Mexico.

The El Paso School District uses the California Achievement Test (CAT) as one indicator of academic achievement of LEP students. Unfortunately, student achievement data are not broken down by students of particular language categories nor by students who have undergone a particular programmatic treatment. Nonetheless, student achievement in this heavily-impacted Spanish-speaking area has shown steady progress toward the national median in the last five years. In 1981, the dis-

trict median was somewhat below the national median in reading and language, but near the national median in math. Student performance in Title I schools studied, while comparing favorably with the median performance district wide in reading, language, and math, is considerably lower then the national median, particularly in reading. In the non-Title I schools in the study, student achievement generally exceeds the district median in all three areas, and in most cases, is at or above the national median.

Two Rural Districts Serving Navajo Students

Four types of schools serve children who reside on or near the Navajo reservation: (a) Bureau of Indian Affairs (BIA) schools; (b) contract schools; (c) public schools; (d) private church schools. The focus of this study is two schools, one of which is a BIA boarding school and the other is a contract day school.

Contract School

The Borrego Pass School District consists of one school (grades K-6) which serves two Navajo chapters. It is situated on the Navajo reservation in New Mexico in an isolated rural area accessible only by dirt road. The school serves a 125 square mile area. The vast majority of the school's 117 students is transported by bus to school from along a 93 mile route that is mostly unpaved. All of the students are Navajo, except six children of non-Navajo school staff. They are from low income families.

The Navajo language is the dominant language used in the home, and many of the adults speak little or no English and have had little or no formal schooling. However, parents have expressed an interest in having their children become bilingual speakers of English and Navajo, and they are concerned about the quality of education for their children.

In the past the school was run directly by the Bureau of Indian Affairs (BIA), but with decreasing enrollment due to competition from other schools in the region, the BIA decided to close the school in 1972. With community support, the Navajo tribal members from the two local chapters entered into contract with the BIA to operate the school, and thus in 1972, the school became a "contract" school with considerable control over school policy and practice falling into the hands of a local school board.

Prior to 1972 the instruction provided to children was virtually all in English. No special language assistance program was provided. The school's bilingual program began in the 1972-1973 school year in the form of ESL classes offered to students in grades K-3. An audiolingual approach was pilot tested during that year and was rejected after one year on the basis of cultural inappropriateness. The following year (1973-1974), the school began to experiment with organizational and instructional models which have evolved into the school's present comprehensive educational program which is multifaceted and incorporates the use of Navajo in the instructional program.

In the 1974-1975 school year, the school received a one-year ESEA Title VII planning grant to hire specialists to assist teachers in curriculum planning. Except for that one year, no Title VII monies have been utilized by the school district. ESEA Title I funding has been utilized by the school over the past 10 years, mainly to hire reading specialists to assist students at the intermediate and upper grades who were having difficulty progressing in their English reading skills. Beginning in 1975-1976, ESEA Title IVA and IVB funds also have been received by the school and utilized to hire and maintain staff to develop culturally-relevant materials, in both the Navajo and English languages, to support their currently-implemented program.

Educational Services Presently Available

The school provides a comprehensive educational program which addresses four key student needs: academic, social, emotional, and physical. The academic needs are met in the following instructional areas: English Language Arts, Navajo Language Arts, Navajo Cultural Studies, Mathematics, Science and Ecology, Social Studies, Career and Health Education, Music, Art, and Compensatory Instruction.

Instruction in each of the academic areas is bilingual in the early grades, making a transition from Navajo to English as the principal medium of instruction at approximately the third grade level in all areas except Navajo Language Arts and Culture. Literacy instruction is biliterary throughout the program, with initial instruction in the student's native language (Navajo for all but a very small minority) and introduction of English literacy as soon after initial success in Navajo literacy and English comprehension skills will permit. Navajo literacy skills are taught with full emphasis up to the end of second grade and taught on a maintenance basis from third grade on. Social studies instruction is bicultural, with additional resources devoted to the development of community-based cultural content for the Navajo cultural instruction.

Time allocations in English and Navajo vary as a function of grade level. In grades K-2, instruction is bilingual in reading, mathematics, music, science, and social studies. In grades 3-6, all instruction is in English except in Navajo Language Arts and Culture which is taught by native Navajo-speaking aides for 60-90 minutes per day.

A variety of support services are provided which supplement the instructional program to meet the social, emotional, and physical needs of the students: human relations training and discipline procedures of the school, counseling services, monitoring of student health, transportation to medical services, food services, and clothing assistance.

Entry/exit criteria are not viewed in the same way as they are in "traditional" bilingual programs. Since the "bilingual" program is the program of the school, all children attending the school participate in all aspects of the program. Thus criteria for entry is enrollment in the school. Since the program extends throughout the school and at all grade levels, exit from the program occurs at the time the student com-

pletes sixth grade or terminates enrollment in the school. However, student language dominance is assessed informally on entry into school, and student progress in the program is monitored through formal testing carried out periodically.

Length of Stay in Program; Student Achievement

Length of stay in the program is determined by the length of stay in the school. Most children, because of the nature of the program, remain in the program from kindergarten through grade 6.

Standardized test scores in English over the past five years show that the students in general perform several years below grade level with a steady improvement in overall scores except at grade three. In reading, fifth and sixth grade students have shown the greatest progress, with sixth grade students performing at the national norms in 1981. While substantial gain has been made in math scores, the students are still performing below national norms. In language, the students at all grade levels are performing below the national norms, and only minor gains are evident at some grade levels in certain years. Lack of sustained exposure to English, except in school, is undoubtedly a contributing factor.

Bureau of Indian Affairs (BIA) Boarding School

Lake Valley School District is a boarding school operated by the Eastern Navajo Education Agency of the Bureau of Indian Affairs, Navajo Area. The school serves two Navajo communities of 600 individuals. More than two-thirds of the student population (approximately 115 students) are provided room and board at the school dormitory. Only about 18% ride busses to school daily, and many of these are kindergarten students. Less than 15% are children of staff members living on the school compound. Almost all of the teachers and staff reside in small houses on the compound, with only a few of them commuting each day from homes in the nearby town some 40 to 50 miles away.

All of the children are from low income families. Some of the adults are sheepherders, while some work at a nearby mine or in small businesses and schools in the neighboring towns, however, more than 60% of the adults are unemployed. Many of the children come from homes where one or both parents are absent from the home and/or community.

The language of the comunity is Navajo with few, if any, exceptions. Some 98% of the children enter school speaking no English at all. All school business between parents and school personnel is conducted through the use of a bilingual interpreter.

The school has served the two Navajo communities in the area since 1937. Prior to 1963, a one-room school house served some 60 children taught by one male teacher who also served as principal. In 1963, the BIA converted the school into a boarding school. Prior to 1972, it served only grades K-3. Beginning in 1973, a grade was added each year so that by 1977 the school was serving grades K-8. Children from two grade levels were clustered in one classroom and served by one teacher.

This clustering of students reflects the current organizational structure.

Prior to the early 1970s all instruction was carried out in English only. ESEA Title I funds obtained by the school throughout the late 1960s were used primarily to buy school supplies and equipment. Beginning in the early 1970s, Title I proposals focused more on the academic needs of the children, and bilingual Navajo aides were hired to assist the children in the classroom.

Bilingual education as a practice did not begin until the first ESEA Title VII funds were received in the 1975-1976 school year. Title VII funding has been continuous since 1975, but the extent of the bilingual program has varied considerably over the past seven years. The first years of Title VII funding provided teachers for grades K-3. Funds for the 1978-1979 school year were used for planning only. It was not until the 1981-1982 school year that bilingual services were expanded to include grades K-5.

In the early bilingual programs the emphasis was on maintaining the Navajo language and culture. However, because of changes in federal guidelines and the changing political realities, the maintenance philosophy gave way to a more transitional philosophy in which Navajo literacy skills were not given as high a priority as English literacy skills. Even from the beginning, the proportion of time devoted to Navajo instruction was greater in first and second grade than in higher grades.

In the early and mid-1970s, ESL classes were offered to the students using an audiolingual approach. This approach was judged to be culturally inappropriate and was rejected in the mid-1970s, giving way to the use of techniques such as modeling and unfocused corrective feedback, which are characteristic of the current program.

Educational Services Presently Available

The school facility is organized with two grade levels per classroom with grades 1-2, 3-4, 5-6, and 7-8 housed together, respectively. Kindergarten is housed in a classroom located in an adjacent building. Each classroom is self-contained and is staffed by a certificated teacher (monolingual English-speaking in each classroom except for grades 3-4 which is staffed by a bilingual teacher), a Title I aide (all are bilingual), and a Title VII aide (all are bilingual interns who spend four hours per day in their respective classrooms). The certificated teacher is responsible for all instruction. The Title I aides work mainly in the English Language Arts areas (oral language and reading), with the Title VII interns mainly responsible for instruction dealing with Navajo culture (which includes social studies and science) and mathematics. The Navajo language is used by the aides to support the students' understanding of concepts, to develop pride in their culture, and to foster and develop their use of Navajo.

Time allocations in English and Navajo vary as a function of grade level and subject matter content. In the early grades some attention is given to introducing children to written Navajo while they are acquiring oral skills in English. However, emphasis is placed on acquiring

English reading skills at all grade levels. In all grades, instruction in social studies (mainly Navajo culture) is given primarily in Navajo (approximately 30 minutes per day). Mathematics and spelling are taught in both English and Navajo (about 30 minutes per day). In grades 3-4, where there is a bilingual teacher, mathematics (about 45 minutes per day) and social studies/health/science (approximately 45 minutes per day) are taught using both languages. In grades 5-6 and 7-8, both Navajo culture (about 55 minutes per day) and social studies (approximately 25 minutes per day) are taught using both languages.

Since most of the children live in the school's dormitory, their education continues on a 24-hour basis. Numerous extra-curricular activities are available (e.g., guitar classes, dance classes, basketball games, films, parties). The dormitory is equipped with a billiard table and a television set which the children have access to in the evenings. The school staff volunteer much time and energy to organizing these activities.

Exit Criteria. Since the school receives Title VII funds, it has specified criteria for entry into and exit from the program. In order for the students entering at kindergarten or first grade to receive bilingual services, they must score at or below 50% mastery on the Minimum Grade Criterion Referenced Test which is normed on Eastern Navajo District Schools. Once they can demonstrate 95% mastery on total language and academic-related areas of this test, they are no longer eligible for services. Children in grades two through five who score below the 40th percentile on the Total Language Arts and Reading sections of the Comprehensive Test of Basic Skills (CTBS) in English are eligible for services. Students who score at or above the 70th percentile on the CTBS are no longer eligible for service.

In actuality, entry/exit criteria are of little significance except as a procedure for reporting to Title VII. There is only one class for every two grades in the school, and all children remain with the same teacher and aides and instructional groups, regardless of how they perform on the standardized tests. In other words, all children are exposed to the same instructional treatment.

Length of Stay in Program; Student Achievement

Length of stay in the program in reality is determined by the length of stay in the school. Although exit criteria is specified (70th percentile or above on the CTBS) children seldom reach that criteria throughout their school experience.

Standardized test scores in English over the past five years show that the students in general perform well below the national norms. This pattern holds true for mathematics as well as for language and reading.

Summary and Conclusions

Summary

A detailed description of each of the sites, as well as a description of services delivered, is contained in the Final Report submitted to the National Institute of Education. Generally, the data suggest that bilingual education takes various forms in keeping with the necessity to serve diverse populations under diverse conditions to meet the needs of student populations with varying and distinct educational needs. While findings from the descriptive study cannot be generalized beyond the specific populations studied, they do serve to identify some of the variation that exists in bilingual education practices and certain factors which have shaped those variations. The principal findings are summaried below.

Region and Population. The geographic region served by the school district is a contributing factor to the composition and nature of the student population to be served. A number of factors related to geographic location appear to have affected and shaped the bilingual practices in the districts studied. These include:

- a single non-English language group vs. multiple non-English language groups within the population to be served.
- urban vs. isolated, rural conditions.
- proximity to the US. border area.
- immigrant/refugee vs. U.S. born students.

Density and distribution of LEP students within the school population influence not only who gets service, but also the organizational structure of the bilingual program. Desegregation policy at the local and national levels appears to have had little effect on distribution of students, and consequently on the form bilingual education has taken, in the high density districts (Spanish and Navajo); however, the converse is true in the district with low density of LEP students, resulting in relatively few such students within a given school.

Educational practices in previous years. Special language assistance in the form of English-as-a-Second Language (ESL) classes preceded bilingual education in each of the districts studied. Some districts were providing ESL instruction as early as 1947. Bilingual education practices, as defined today, undoubtedly were given impetus by the passage of the Bilingual Education Act in 1968 as well as by the availability of federal monies to implement such practices. While Title VII funds have provided support to the bilingual programs studied, at present they are receiving only limited assistance from this source. Funds from a variety of other sources are being used extensively to support these services (e.g., Title I, IVA, IVB, VI, Federal Refugee Assistance Act, as well as state and local funds).

Changes in services delivered and factors which influence those changes. There appears to be an identifiable sequence in the development of the programs studied. All began with ESL instruction. In the early and mid-1970s these programs were then expanded to include the use of the home language in the instruction of minority-language students, with a rather strong movement toward language maintenance programs. Implementation and growth of such programs, while encouraged by the passage of the Bilingual Education Act and the availability of federal monies to support these programs, may also be attributed to the recognition on the part of school and community people of the potential educational benefits that accrue from such practices. Two of the districts have continued to pursue that development. The other two have moved toward redirection in which there is less emphasis on the full development of the home language as reflected in the adoption of transitional bilingual education. Factors which appear to have influenced the redirection within the two districts are related to growing numbers of students to be served, legal mandates to serve those in greatest need, the passage of transitional bilingual education laws at the state level where the districts are located, and subsequent adoption of local policy to conform to the state legislation.

Current student population. It is quite clear that there has been over the past several years, and continues to be, a substantial increase in the number of LEP students enrolling in the schools. There is, in fact, a real increase, but the increased number of students to be served is also due, we believe, to better methods of identifying students needing service. These students are for the most part from low income families. Certain of the groups served are primarily native-born whose families are long-time residents in the United States, whereas other children are primarily from new immigrant and refugee groups.

Educational services available to minority-language students. The educational services provided to minority-language students consist not only of the instructional programs offered in the classroom but also of a variety of support services, some of a non-instructional nature. For example, support services are provided in the form of administrative and supervisory personnel, curriculum development, inservice training of teachers, technical assistance at the building level, resource centers and libraries, community liaison activities, and student identification and language assessment outside of the regular classroom. In each case, entry-exit criteria have been formalized and vary from district to district. The organizational models implemented also vary; some form a part of the neighborhood school program, others encompass special centers where clustering of students is achieved by busing. Curriculum and instructional patterns vary considerably. This variation appears to be related to a number of factors. For example, the role of the home language in the wider community, as well as the role of literacy in the home language within the local language group, appears to affect program offerings. Similarly, the extent to which literacy development in the home language is seen as feasible by the target group and by school officials appears to influence the use of the home language within the school curriculum.

Goals of the special programs. In addition to practical matters, exit (end of service) criteria and goals of the programs appear to be related to and reflect the educational philosophy espoused by the school district. Nonetheless, in all cases English fluency is a primary goal.

Length of Stay in Programs; Student Achievement

Length of stay in bilingual programs varied, depending upon the goals of the program. Younger students tended to reach "exit" criteria sooner than older studennts. However, on the average across all grade levels, only about two-thirds of the students were reclassified to English Proficient within three years of service.

As a group, across all sites, LEP students from the ethnic groups studied (Spanish, Navajo, Chinese, Vietnamese, Laotian, Cambodian) are presently performing below national norms on the reading and language subtests of standardized achievement tests. The range of achievement among these groups is considerable. At present some are closer to the national norms than others. With all, except for the Chinese and Vietnamese, performance is also low in math. Nonetheless, where multiple-year data are available, progress is shown toward the national norms in both reading and math.

Conclusions

While progress has been made in the academic achievement of minority-language students in recent years, it is evident that special language assistance programs are still needed for a variety of language groups as demonstrated by uniformly-low academic performance on standardized achievement tests. In addition, a need is strongly felt for research on and special education programs for learning disabled and physically handicapped LEP students.

The data suggest that no one model of bilingual education can serve all LEP populations under all conditions equally well. Thus, federal and state policies which guide educational practices for minority-language students must be broad enough to allow school districts the flexibility to tailor educational programs to fit the unique needs of their own school populations and the communities which they serve.

Finally, use of the non-English home language in the instructional program is seen as having benefits not only for minority-language groups but for society as a whole. It has brought more minority-language adults into an active role in the school and, through inservice training and intern programs provided through school funding, a nucleus of bilingual teachers has been developed in a variety of languages. This professional development of bilingual adults offers the potential for increasing the capabilities of U.S. schools to prepare larger numbers of individuals with foreign language skills and knowledge of foreign cultures (a need expressed by the President's Commission on Foreign Languages and International Studies in 1979). At the same time, such development among adults assists in the integration of minority-language populations into the mainstream of U.S. society through the expansion of the intellectual and economic base of these communities.

ANALYTIC STUDY - ASIAN SITE

This component of the Language and Literacy Learning in Bilingual Instruction study was conducted in the Seattle Public Schools. It investigated selected student characteristics and bilingual instructional programs for Cantonese-speaking students as these two factors relate to English literacy achievement. The general research questions guiding this component of the study were:

> What bilingual instructional practices best foster the acquisition and development of school-related language skills in the second language (English) of bilingual students?
>
> What student language characteristics interact with bilingual instructional practices to affect acquisition of English language skills?

In addressing these, the study assessed the roles of relative proficiency in English (at both the present time and at entry into school), and amount of formal schooling in both English and Cantonese, on subsequent English literacy skills achievement (reading, writing, and formal oral language).

The successful conduct of the study required (1) a site which offered the needed variation in instructional programs and student characteristics, (2) an instrument package that allowed the assessment of the literacy skills of the selected sample, (3) a design that permitted separation of the factors of interest, and (4) a sufficiently sensitive analysis procedure to evaluate the relationships among those factors. In this report, each of these components is summarized (for a detailed description of the study, see Final Report: Cantonese Site Analytic Study).

Before turning to the details of the study, note that the following conventions are employed. Throughout, "L1" represents Cantonese, the home (or first) language of most of the Cantonese site sample; "L2" represents English, the second language of the students.

The Students

The Seattle site was selected for this "natural variation" study over the other sites identified for descriptive study primarily because it offered a sample of students with sufficient variation in the factors of interest. Further, it promised the most favorable conditions for obtaining separation of these factors.

The sample consisted of approximately 40 students from each of grades 2, 4, 5, and 6. The second grade sample did not enter into the major analytic procedures because they lacked sufficient amounts of literacy training in either L1 or L2, which were key instructional variables. However, these students were assessed with each instrument to allow a wider description of elementary school grade performance in L2 literacy skill. The sample represented students who had received one

of two instructional sequences. One group, receiving a simultaneous L1+L2 program, consisted of USA first-schooled students who, in the early grades, had received varying amounts of literacy instruction in both Cantonese and English, before receiving exclusive English literacy instruction in later grades. A second group, receiving a sequential L1-L2 program, consisted of students who were foreign first-schooled, and had received varying amounts of exclusive Cantonese literacy training in the early grades prior to entering USA schools in later grades, where they received exclusive English literacy training.

Language Proficiency and Literacy Skills

Recently, two types of linguistic competence have been described. These have been distinguished by various authors as utterance versus text (Olson, 1977), basic interpersonal communicative skills versus cognitive/academic linguistic proficiency (Cummins, 1980), and natural versus formal language (Calfee & Freedman, 1980). The former is characterized by Calfee and Freedman (1980) as highly implicit-interactive, context bound, unique, idiosyncratic, personal, intuitive, and sequential-descriptive, whereas the latter is highly explicit, context free, repeatable, memory supported, and logical-rational. For children, natural language is the linguistic competence acquired in early childhood and brought to the classroom, while formal language is an additional competency acquired during the schooling process.

Indices of each student's English proficiency, both at school entry and currently, were obtained by estimating each one's exposure to English based on interviews with parents, asking about the relative use of Cantonese and English in interactions between the target student and immediate family members and friends. Since the responses the parents gave were most likely based on their recollections of the informal linguistic interactions between the students and family members and friends, their responses characterized the students' relative English exposure outside the classroom--they reflected their exposure to "natural" language, rather than exposure to "formal" language.

The data obtained from these interviews indicated that, on the average, most interactions were conducted in Cantonese prior to school entry; but for current interactions, while most adult-student exchanges continued to be conducted in Cantonese (though there was some increased English usage), peer interactions became much more frequently conducted in English.

Oral formal language measures were derived from two sources. One came from an audiotaped interview with the target student where he was asked to describe his current classroom program and his past and present patterns of language use. The second came from the audiotaped retell of one of the passages used in the comprehension section of the reading assessment instrument. Both sets of tapes were rated on a number of dimensions encompassing the central contrasts between natural and formal language, rating such things as ease, grammatical properties, and higher level discourse dimensions like cohesion, coherence, explicitness, and awareness of audience. The two taped interactions represent some important differences. In the student interview setting, the student was

providing information which the interviewer did not already know, while in the passage retell task, the student was providing information that was clearly known to the tester (who had just read to the student the story to be retold). The latter placed the student in a much more formal task where the emphasis was not so much on what was communicated, but on how the communication was made. The data gathered from these ratings showed that, overall, the students had adequate English comprehension skills and relatively good command of English production (with some problems), but difficulty in discourse level communication. A factor analysis conducted on the combined ratings confirmed that the linguistic requirements differed in the two situations. The items rated from the passage retell task were highly related, and reflected the students' skills at the discourse level of communication. Two distinct factors were found in the student interview ratings. One represented the students' interactional styles, a language-independent factor, which reflected the students' ease in the interview setting. The other reflected the students' abilities to handle the grammatical aspects of English.

In addition to the above assessments of oral language ability, each student was tested at the end of his current grade with a set of instruments designed to measure various components of skills in reading and writing. The reading assessment procedure employed was the Interactive Reading Assessment System - English (IRAS-E). It was designed to assess independent component reading skills, and included measures of the student's ability to decode real and synthetic words, define isolated words, read isolated sentences fluently, and comprehend narrative and expository texts under reading and listening conditions. The data obtained from this assessment showed that for these Cantonese-English bilingual students, decoding skill (of isolated words) was well-established, but the ability to read passages under time constraints, and to integrate the meaning of the words into coherent sentence and story structures, was weaker. As one would expect, given the large differences in L2 instructional time, the USA first-schooled students outperformed the foreign first-schooled students.

Cantonese reading ability was assessed using a parallel version of the Interactive Reading Assessment System in Cantonese (IRAS-C), which allowed the measurement of individual components of Cantonese reading skill: decoding (isolated "word" reading), definitions, sentence reading, reading comprehension, and listening comprehension. Here, the data showed that these students were relatively good speakers of Cantonese, but weaker in their ability to read the language. The foreign first-schooled students, given their relatively greater amounts of L1 literacy training, showed better skill in Cantonese reading than did the USA first-schooled students. Overall, the reading levels were not particularly high, as would be expected, given the written representation of Cantonese.

During student selection, each target student's permanent record file was examined, and all standardized test score information from the time each student first enrolled in the Seattle Public Schools was recorded. The California Achievement Test (CAT) had been used throughout the district for the past several years, and percentile scores

providing information which the interviewer did not already know, while in the passage retell task, the student was providing information that was clearly known to the tester (who had just read to the student the story to be retold). The latter placed the student in a much more formal task where the emphasis was not so much on what was communicated, but on how the communication was made. The data gathered from these ratings showed that, overall, the students had adequate English comprehension skills and relatively good command of English production (with some problems), but difficulty in discourse level communication. A factor analysis conducted on the combined ratings confirmed that the linguistic requirements differed in the two district situations. The items rated from the passage retell task were highly related, and reflected the students' skills at the discourse level of communication. Two distinct factors were found in the student interview ratings. One represented the students' interactional styles, a language-independent factor, which reflected the students' ease in the interview setting. The other reflected the students' abilities to handle the grammatical aspects of English.

In addition to the above assessments of oral language ability, each student was tested at the end of his current grade with a set of instruments designed to measure various components of skills in reading and writing. The reading assessment procedure employed was the Interactive Reading Assessment System - English (IRAS-E). It was designed to assess independent component reading skills, and included measures of the student's ability to decode real and synthetic words, define isolated words, read isolated sentences fluently, and comprehend narrative and expository texts under reading and listening conditions. The data obtained from this assessment showed that for these Cantonese-English bilingual students, decoding skill (of isolated words) was well-established, but the ability to read passages under time constraints, and to integrate the meaning of the words into coherent sentence and story structures, was weaker. As one would expect, given the large differences in L2 instructional time, the USA first-schooled students outperformed the foreign first-schooled students.

Cantonese reading ability was assessed using a parallel version of the Interactive Reading Assessment System in Cantonese (IRAS-C), which allowed the measurement of individual components of Cantonese reading skills: decoding (isolated "word" reading), definitions, sentence reading, reading comprehension, and listening comprehension. Here, the data showed that these students were relatively good speakers of Cantonese, but weaker in their ability to read the language. The foreign first-schooled students, given their relatively greater amounts of L1 literacy training, showed better skill in Cantonese reading than did the USA first-schooled students. Overall, the reading levels were not particularly high, as would be expected, given the written representation of Cantonese.

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served as the primary index of performance. Some data were missing due to extended absences or to the student's inability to complete the test (in English); also, because of the immigrant status of many of the youngsters, there was considerable variation in the entry grade for the target sample, with some students entering as kindergartners and others entering as late as fifth grade. In order to make maximum use of this data source, the sets of scores for each individual student were used to predict an individual sixth grade exit percentile for both CAT-Reading and CAT-Math data sets. The predicted percentiles for these students revealed exceptionally good performance in mathematics, at about the 80th percentile, with reading percentiles at the national average. Again, the USA first-schooled students showed superior performance to the foreign first-schooled students in reading, but no differences were found in mathematics scores.

The English writing assessment procedure, the Informal Writing Inventory (IWI), contained measures of the student's ability to recognize complete sentences, provide proper capitalization and punctuation, re-write stories to improve readibility, and compose texts (informal note, formal letter, imaginative work, and narrative and expository text). For the composition tasks, ratings of the students' ability to handle the mechanics of writing were made, as well as ratings of the quality of the compositions produced. The IWI data showed that these students, as a group, had adequate mastery of the mechanics of writing, but had difficulties with composition. Further, mechanics scores showed only a slight decline as more complex writing was required, but quality scores declined sharply with such increases in complexity. Again, USA first-schooled students showed better writing skills in English than the foreign first-schooled students.

The study sought to determine which sets of student language characteristics and instructional training were related to development in the literacy skill areas described above. The basic technique employed was multiple regression, which assesses the strength of relation between a set of independent variables (here, the literacy predictors) and scores on a given dependent measure (the current L2 literacy skills). Global measures of skill in reading (in both English and Cantonese), writing, and oral language (for discourse, grammar, and interactional style), based on the assessments described above, were created for use as the dependent measures. The independent measures used as predictors of these skills are described below.

Literacy Predictors

Previous work in the area of second language acquisition in children has shown that length of residence (LOR) in the L2-speaking country is a powerful predictor of attained L2 academic proficiency (Cummins, 1981a). The explanation for the effect has been that LOR is a proxy variable for the amount of exposure to L2, which is the critical variable. Note, however, that for children, LOR will most likely be confounded with amount of formal instruction through L2. This study sought to disentangle these variables by obtaining measures of exposure to both natural and formal English, under the argument that academic proficiency

in L2 may be more strongly supported by exposure to L2 formal language than exposure to L2 natural language.

Thus, the number of semesters of formal schooling each student received in English was computed as an index of exposure to English formal language and instruction. As an index of formal schooling in Cantonese, the number of semesters of the relevant L1 literacy training program received (semesters of L1 under the sequential L1-L2 or simultaneous L1+L2 program) was also summed for each student. The measures of natural language exposure to English were derived from the parent interview described above, providing indices of such exposure both prior to school entry and currently.

Before proceeding, it is important to note that the Cantonese literacy instruction received by the USA first-schooled students in the Seattle Public Schools under the simultaneous L1+L2 program consisted of Cantonese instruction lasting about 30 minutes per day, with the remainder of the instructional day in English. For the sequential L1-L2 literacy program received by the foreign first-schooled students, the Cantonese literacy training was exclusive, and of course, lasted throughout the school day. Thus, comparable numbers of semesters of Cantonese literacy training under these two programs clearly do not represent comparable amounts of absolute time devoted to L1 training. For this, as well as for other reasons not germane here, the regression analyses essentially treated these two groups of students (USA first-schooled versus foreign first-school) separately when evaluating the relations between English literacy skill development and the predictor variables.

With these measures in hand, the regression were run individually for each of the English literacy skill areas assessed: reading (from scores on the IRAS-E and CAT-Reading), writing (from the IWI scores), oral language discourse ability (from the passage retell ratings), oral language grammar skill (from a subset of the student interview ratings), interactional style (from another subset of the student interview ratings), mathematics skill (from the CAT-Math percentiles), and Cantonese reading proficiency (from the IRAS-C scores). For each of these literacy measures, again, the regression analyses measure the strength of relation between skill in these areas and the predictor variables, which basically consisted of preschool and current exposure to natural language, instruction in English, and instruction in Cantonese.

First, the CAT-Mathematics scores showed little relation to any of the English literacy predictors for either of the instructional groups. Thus, skill in mathematics is seen to be independent of exposure to both natural and formal language.

For the foreign first-schooled students, Cantonese reading proficiency was predominantly related to the amount of L1 instruction received, however, for the USA first-schooled students this skill could not be predicted by the amount of L1 instruction received. This most likely reflects (1) the small amounts of L1 training received, in absolute terms, relative to the foreign first-schooled students, and (2)

the fact that all of this instruction was received at least three years prior to this assessment of Cantonese reading skill.

For the oral discourse measure, skill was related to both natural and formal language exposure for both groups of students. Although it was not significant statistically, there was a positive relation between discourse skill achievement and relative proficiency in Cantonese reading for the foreign first-schooled students. Given its status as a formal language factor, it is somewhat surprising that discourse skill did not show a stronger relationship to instruction. However, since the students showed relatively poor performance in discourse skill, this result may reflect that the small amount of skill that was acquired was done so in a "sporatic," rather than cumulative fashion. That is, the instruction these students received may not have been systematic in training such skill. Further, this skill does not seem to be acquired merely as a consequence of reading acquisition, for if it had, the literacy predictors would have been as strongly related to it as they were to reading achievement. Since formal language is more related to exposition than to narration, such a finding would be expected, if exposure to expository texts was relatively low during reading instruction.

For the grammar measure, again, both natural and formal language exposure were related to skill development in both instructional groups. Such is not surprising since the acquisition of this skill would seem to be advanced by exposure to either.

For foreign first-schooled students, English reading skill (as indexed via the IRAS-E) improved as their command of English improved, and as L2 instruction increased. For USA first-schooled students, who had, for the most part, already gained adequate command of natural language in English, skill improved mostly through increased instruction. Also, for the foreign first-schooled students, the substantial amount of early Cantonese literacy training received was positively related to subsequent English reading achievement.

For the foreign first-schooled students, CAT-Reading scores were related only to the amount of L2 instruction received. For the USA first-schooled students, both preschool exposure to English and the amount of L2 instruction received were related to performance. Here, again the importance of instruction is clear. Further, it appears that those students who come to school with a better command of natural language in English are more able to profit from early instruction, of the kind provided in the Seattle Public Schools, which in turn, results in relatively higher (maintained) levels of attainment over time.

For the writing measure (IWI), within the foreign first-schooled students, only the amount of L2 training showed a significant relationship to skill. There was a positive relationship with the amount of Cantonese literacy training, however, it was not statistically significant. For the USA first-schooled students, a small relationship with preschool English exposure was found, and a strong relation for the amount of L2 instruction received. Thus, as in reading, instruction is seen to play a key role, but again, students with better command of

natural language in English at school entry show long-term advantages in English writing skill.

Although the USA first-schooled students consistently outperformed the foreign first-schooled students with respect to English literacy skill achievement, the latter group was, nonetheless, performing relatively well. Given that their average length of English instruction was only about two and a half years, one may expect them to continue to approach the level of competence exhibited by the USA first-schooled students who have had substantially more English instruction.

While no significant positive relations were found for the amount of Cantonese literacy training received within the USA first-schooled students, such instruction did not impede English literacy skill development. Thus, although such instruction represents time spent away from direct English literacy skill instruction, it does not show the detrimental effects some hypotheses would predict.

To the contrary, the data show that when L1 literacy skills are substantially developed, as in the foreign first-schooled students, such skill is positively related to the development of L2 literacy skill. Thus, these findings lend support to the interdependence hypothesis (Cummins, 1981b), which holds that there is a single underlying cognitive/academic proficiency that is independent of the particular language employed in its development, thereby allowing the transfer of this deeper proficiency (to the extent it is developed) from one language to another regardless of the surface differences between the two languages. The implication for bilingual education is clear: while a given student is acquiring a second language, development of the underlying cognitive/academic proficiency can proceed through the first language until the second language has been mastered, at which time, further development of the underlying proficiency can be advanced through either language.

Conclusions

Returning to the original questions guiding this investigation, the study finds: (1) that L2 instruction is critical for the development of reading and writing skill in L2, but that those students who come to school with greater command of natural language in L2, maintain an advantage in the long-term development of these skills; (2) to the extent that L1 instruction is effective in developing L1 literacy skill, transfer of the underlying academic proficiency occurs with mastery of the second language; and (3) that oral grammar skill is advanced through exposure to both natural and formal language, but that oral discourse skill, a formal language factor, will most likely be developed through formal, rather than natural, language exposure.

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